Annual variations in aelian dust for last 100 years derived from two Asian ice cores in western China and Russian Altai.

Takeuchi Nozomu Asian Ice Core Research Group[1]

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http://www-es.s.chiba-u.ac.jp/˜takeuchi/

Central Eurasia is one of the major sources of aeolian mineral dust. Aeolian dust can deposited on Asian mountain glaciers and can be preserved in glacial ice for hundreds of year. Ice cores drilled from such glaciers could reveal the history of aeolian dust. In this study, annual variations in aelian mineral dust for a hundred years were retrieved from two mountain ice cores, which were drilled on Dunde ice cap in western China in 2002 and Belukha Glacier in Russian Altai in 2003. Insoluble particle analysis revealed that mean dust concentration significantly differed between two ice cores: Dunde ice core was about 3-fold higher than Belukha ice core. The difference was larger in large-sized particles (e.g. 11-16 um), but smaller in small-sized particles (e.g. 0.52-0.71 um). Annual variations in dust concentration also showed significantly different trends between the two ice cores.